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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,166	08/19/2003	Jin-han Kim	1293.1867	3597

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EXAMINER	
NGUYEN, LINH THI	
ART UNIT	**PAPER NUMBER**
2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/643,166	KIM ET AL.	
	Examiner	Art Unit	
	Linh T. Nguyen	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5-9,13,17,21-25,29,43,47-50 and 64-69* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-9,13,17,21-25,29,43,47-50 and 64-69* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 43, 47-50, 68, and 69 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 43, 47-50, 68, and 69 drawn to a "program" *per se* or non-tangible signal with "program", per se, or non-tangible computer readable medium (as defined in the specification on page 11, line 29 as being a signal (i.e. "carriers waves")) with "program", per se, as recited in the preamble and as such is non-statutory subject matter. See MPEP § 2106.01. Data structures not claimed as embodied in tangible computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed tangible computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer

listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5-9, 21-25, 43-58, 65, 67 and 69 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo et al (US Publication number 20020110067).

In regards to claims 1, 17, 43 and 51, Kondo et al discloses a method, apparatus, and computer program to modulate address data of a disc type recording medium (Paragraph [0161]), the method comprising: generating the address data (Figs. 9-12); performing error correction coding of the address data and outputting coded address data (Paragraph [0164], the data are accompany by ECC); receiving the coded address data, generating a unit wobble signal of the coded address data (Figs. 9-12), wherein the unit wobble signal is alternatively one of at least four different unit wobble signals and has N carriers (Figs. 9 and 10, have a 5 wobble signals 10110), and wherein a first

portion of the unit wobble signal is modulated by using a first modulation method and a second portion of the unit wobble signal is modulated by using a second modulation method (Paragraph [0187], lines 10-15).

In regards to claims 8, 44 and 52, Kondo et al discloses the method and apparatus, wherein the generation of the first modulated signal comprises generating a signal using the first modulation technique indicating each bit value of the coded address data (Fig. 9, shows an amplitude modulation of coded address data) and generating the second modulated signal using the second modulation technique by generating a signal indicating each bit value of the coded address data (Fig. 10, shows a frequency modulation of the coded address data).

In regards to claims 45, and 53, Kondo et al discloses the method and apparatus, wherein the generation of the first modulated signal comprises, using the first modulation technique, generating a predetermined pattern signal if a bit value of the coded address data is equal to a first bit value and not generating the predetermined pattern signal if the bit value of the coded address data is equal to a second bit value (Paragraph [0167]), and generating the second modulated signal using the second modulation technique by generating the signal indicating each bit value of the coded address data (Figs. 9-12).

In regards to claims 46 and 54, Kondo et al discloses the method and apparatus,

wherein the generation of the first modulated signal comprises generating a signal using the first modulation technique to distinguish signals indicating each bit value from one another (Figs. 9-12), and generating the second modulated signal using the second modulation technique by generating signals having different lengths for each at least two-bit values of coded address data (Fig. 13 and Paragraph [0194]).

In regards to claims 5, 21, 47 and 55, Kondo et al discloses the method and apparatus, wherein the generating of the unit wobble signal comprises generating at least two pattern signals indicating at least two-bit values of the coded address data using the first modulation method (Paragraph [0192] and [0194]), and generating at least two signals used to distinguish signals indicating a bit value of the address data using the second modulation method (Paragraph [0192], lines 12), where the coded address data of at least two bits is indicated by disposing the at least two pattern signals in predetermined locations and inserting the at least two signals to distinguish signals indicating a bit value of the address data between the at least two pattern signals (Paragraphs [0194]).

In regards to claims 6, 22, 48 and 56, Kondo et al discloses the method and apparatus, wherein the generating of the unit wobble signal comprises disposing the first portion of the unit wobble signal and the second portion of the unit wobble signal adjacent to each other (Figs. 9-10).

In regards to claims 7, 23, 49 and 57, Kondo et al discloses the method and apparatus, wherein the generating of the unit wobble signal comprises alternating the first portion of the unit wobble signal and second portion of the unit wobble signal (Paragraph [0187]).

In regards to claims 8, 24, 50 and 58, Kondo et al discloses the method and apparatus, further comprising: generating signals indicating each bit of the coded address data (Figs. 9-12).

In regards to claims 9 and 25, Kondo et al discloses the method, further comprising: generating a signal indicating a start of the coded address data using one of the first modulation method and second modulation method and a third modulation method (Paragraph [0187], AM, FM and PM method).

In regards to claims 65, 67, and 69, Kondo et al discloses the method, wherein the unit wobble signal comprises 2 bits (Figs. 13-14).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 64, 66, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al '067 in view of Applicant Admitted Prior Art (AAPA).

In regards to claim 64, 66, and 68, Kondo et al discloses everything claimed in claims 1, 17 and 43. However, Kondo et al does not disclose the method wherein N is 56.

In the same field of endeavor, AAPA discloses the method wherein N is 56 (Paragraph [0007], lines 17-18). At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the method of modulating an address data on the disk of Kondo et al to include 56 carrier signals in a unit of wobble signal. The motivation for doing so would have been to set an amount of data in one block.

Claims 13 and 29, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al '067 in view of Kondo et al '934 (US Publication number 20050099934).

In regards to claims 13 and 29, Kondo et al'067 does not but Kondo et al '934 discloses the method and apparatus, wherein the first modulation method is binary phase shift keying (BPSK) and the second modulation method is frequency shift keying (FSK) (Paragraph [0135]). At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the method of modulation of Kondo et al '067 to have a modulation technique of FSK and BPSK as suggested by Kondo et al '934. The motivation would have been to be able to control the speed of the motor, which rotates the disk.

Response to Arguments

Applicant's arguments filed 7/19/07 have been fully considered but they are not persuasive. Applicants argue that Kondo does not disclose "the unit wobble signal is alternatively one of at least four different unit wobble signals and has N carriers." However, Kondo discloses a unit of wobble signal with five different wobble signals and has N carriers (Figs. 9 and 10, showing 5 different wobble signals 10110). Applicants also argue that Kondo does not disclose "different modulation method on a portion of the unit wobble signal. The argument is not persuasive. Kondo does teach or suggest using different modulation method on a portion of wobble signals (Paragraph [0187], stated "as a time sharing recording of the address data" meaning sharing part of an address to modulate). Therefore, claims 1, 17, 43 and 51 is not patentable in view of Kondo et al.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh T. Nguyen whose telephone number is 571-272-5513. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LN

September 20, 2007

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER